

# AE5890 EU ALIGNMENT PROCEDURE

SUPPLY VOLTAGE: 13.8 VDC

## 1. PLL ALIGNMENT:

VCO (Convert the unit to Full Band Mode: Code 3)

CH.1U – 120 to 200mV

CH. 40J – 5 to 6 Volts

Align T14 (ST306), Test Point: TP3

10.240MHz Frequency Alignment:

Test Point: C406 (0 ohm)

Clarifier must be at center position

Adjust T18 (ST745) to attain frequency reading of 10.240MHz.

Reference Frequency Alignment:

Test Point: Between Q68 & C204

AM/FM – 10.695MHz adjust T23

USB – 10.6925MHz adjust T24

LSB – 10.6975MHz adjust T26

Current & Voltage Alignment:

Pre amp Current Alignment:

Test Point: CON1, adjust RV15 to 50-80mA

2 Final Amp Voltage Alignment:

Test Point 1: R229, adjust RV12 to 3.5 to 3.9 Volts

Test Point 2: R239, adjust RV11 to 3.5 to 3.9 Volts

## 2. TRANSMITTER ALIGNMENT:

Audio Generator: 1KHz, 30mV

Supply: 13.8 VDC

Full Band: Code 3

At CH.20E adjust T32, T31, T28, T27 & T29 IFT to maximum

CH.1E & CH.40E – 18W up FM/SSB

CH.1U & CH.40J – 16W up FM/SSB

AM: 4 to 12W

Adjust RV5 for AM

Adjust RV17 for FM

For Code E:

CH.1 & 40 – 4W AM/FM adjust RV300

12W to 15W SSB adjust RV301

For Code D1: FM 80CH, AM/SSB 40CH

CH.1 – 4W FM adjust RV300  
1W AM adjust RV24  
4W SSB adjust RV25

Note: With jumper plugged at CON.1 : 4W FM, 1W AM, 4W SSB  
Without jumper plugged at CON.1: 4W AM/FM, 12W SSB

Modulation: 80 to 90% adjust RV18  
Deviation: 1.6 to 2.2 KHz adjust RV19

### 3. RECEIVER ALIGNMENT PROCEDURE:

Signal generator (SSG) Setting: 1.2 KHz FM, 60% AM

Code 3: CH 3E & 38E AM.....6.0dBuVemf 2V up  
CH 38J & 3A AM.....9.0dBuVemf 1V up  
CH 3E & 38E FM.....0.0dBuVemf 2V up  
CH 38E AM/FM.....66.0dBuVemf distortion 6% below & oscillation 34dB up  
Check 96dBuVemf distortion 10% below

Align to maximum sensitivity the T13, 11, 8, 7, 1, 6, 4  
Align T2 for AM distortion  
Align T5 for FM distortion  
Align T6, 4 for SSB sensitivity

Code D1:

SQ Alignment:

CH.20.....46dBuVemf SQ OFF, Adjust RV402  
66dBuVemf SQ ON

Meter Alignment:

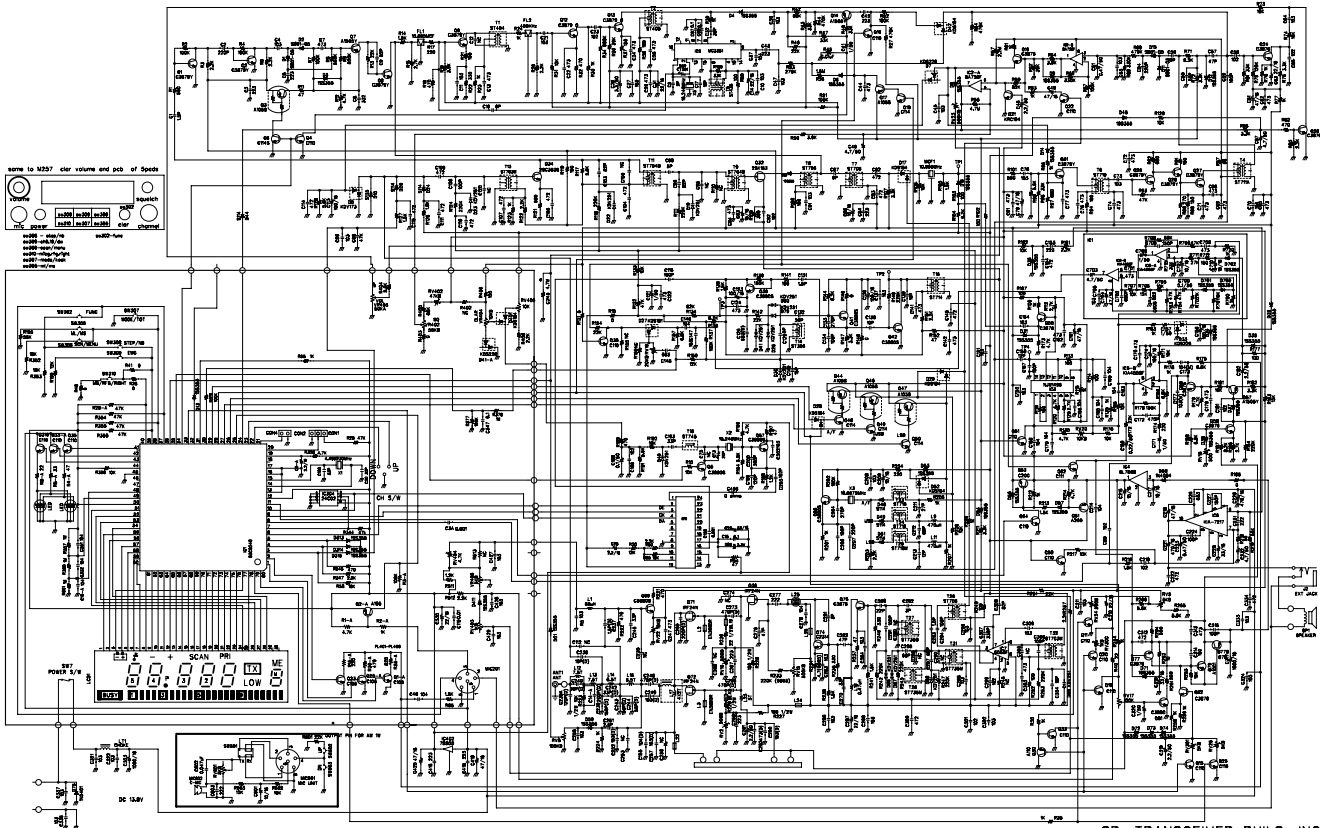
CH.20.....66dBuVemf +9 bars, Adjust RV23  
70dBuVemf FULL Bars

Check NB function:

\*\*\*\*\*OUT OF THE BOX CODE D1 FM 80CH AM/SSB 40CH\*\*\*\*\*



AE-5890N SCHEMATIC DIAGRAM



SR. TRANSCEIVER PHILS. INC.  
R & D DEPARTMENT  
SEPTEMBER 06, 2011